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INFORMATION REPORT

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TELLOFAX 25

COUNTRY Germany (Russian Zone)

DATE DISTR. [illegible] April 1952

SUBJECT The Production and Development of Radio Tubes at the High-Frequency Telecommunications Plant in [illegible]

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NO. OF ENCLS. 1 (sketch) (LISTED BELOW)

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1. Orders handled at the plant fall into four categories, i.e., state orders, export orders, and Soviet and German development orders. The T 2-program, which involves the manufacture of 40,000 complete television sets is a state order. The execution of such state orders is supervised by a special Russian commissioner, who is responsible for the filling of the order concerned. Delivery terms fixed for state orders must be met at any cost. All enterprises in the U.S.S.R. and the satellite states can be sub-contracted when state orders are involved. Export orders are placed by the Soviet Zone Trade Central (DHZ). Soviet development orders are given by the Soviet Ministry of Communications Equipment. The Soviet representative of this Ministry at the plant is Chestrov (fnu), who is not assigned to the SAG Kabel. German development orders are given by the Central Office for Research and Technology of the State Planning Commission. Chestrov must be informed regarding all German development activities. (1)

2. The Soviet plant management is not authorized to make decisions in technical matters. All questions related to technical specifications or the quality of equipment manufactured at the plant are referred to Moscow for decision. Development orders involved the delivery of the following equipment and records:

   a. Telecommunications sets:
      Five prototype sets and drawings, two sets of tools, technical specifications, operating instructions and testing instructions.

   b. High-frequency and low-frequency equipment:
      Except for sets of tools, the same material as mentioned under a. above must be furnished.

   c. Radio tubes:
      Prototype tubes, drawings inclusive of tool drawings, technical specifications, operating and testing instructions, and a description of all testing equipment.

Experience to date shows that production orders for specific items of equipment are given only two years after completion of their development. Exact copies of the prototype sets are demanded even if these have become obsolete in view of new inventions developed in the meantime.

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4. In the field of administration, the Soviet plant management has the final say on all personnel to be hired. All contracts with personnel drawing monthly salaries upward of 500 eastmarks must be approved by the Russians.

5. The T2 type television set, allegedly costs 900 rubles or the equivalent of about 1,500 eastmarks in the U.S.S.R. The calculated cost price of the IK 23 type image tube was 140 eastmarks; however, the actual cost price in 1951 was 108 eastmarks. The television tube sells at 212 eastmarks.

6. In January 1952, a 10-KW triode fitted with an external anode similar to the RS 720 type tube was 60 percent developed. a 300-Watt tetrode was 50 percent developed, while the 1-KW ultra-short wave CSF 2730 type triode, fitted with external anode and a spiral heater, was completed. By improving the mutual conductance to capacitance ratio of the 6J6 type ultra-short wave dual triode, this tube is to reach the quality level of the U.S. tubes. For all development work on ultra-short wave tubes, the Russians have so far demanded a wave length limit of 1.2 meters.

7. In 1952, the metal-ceramic tubes are to be provided with an improved L-cathode. (2) Previously, there were difficulties regarding the manufacture of the cathode lid and the sealing of it to the body of the cathode. Since it became known that the Dutch Philips Radio Firm is using rhenium for special cathodes, the German engineers charged with the development of metal-ceramic tubes asked that rhenium be procured. The use of this material for cathode lids is to facilitate the sealing of the lid to the body of the cathode and to improve the diffusion of the emitting material through the cathode lid, thus increasing the lifetime of these tubes from 200 to 1,000 running hours. Both the Russians and Germans are doing everything in their power to make possible the production of rhenium. Professor Loutowein (fnu) of the Mining Academy in Freiberg is said to have been ordered to develop methods for the production of rhenium in Saxony.

8. Krischke (fnu) and Palisch (fnu) had completed the preliminary experiments for the development of a straight acceleration tube for 1 million electron volts. After the two gentlemen had left the firm, the development of the tube had to be continued at the Heinrich Hertz Institute. A grid keying for this tube was being manufactured at the Oberschoeneweide plant in January 1952. The management of the plant also promised to build for the tube an impulse-keyed magnetron with an impulse output of 1 megawatt designated LMD 100.

9. Prior to mid-1951, P2 iron was procured in Trier via West Berlin. When these deliveries were stopped, the plant tried to produce the material required by cold rolling. Good quality aluminum foils were delivered by a plant in Ammendorf (CL 52/D 92), and CL 10 A1 type sheet iron from Hettstedt (CL 52/D 64). However, because of excessive discharge of gas, only 10 percent of this material was usable. The quantity of P2 iron produced in Berlin-Oberschoeneweide was therefore inadequate for the fulfillment of the T2 program. For the production of P 50 type tubes, 50,000 anode plates had to be bought at the nationalized radio engineering plant in Erfurt. Originally, these plates were earmarked for the production of EL 401 type tubes. The supply of P 2 iron for the 1952 production program is not yet guaranteed.

10. In 1951, mica was bought at the Scherb & Company firm at 3 Kottbuser Ufer, Berlin SO 36 and carried to the telecommunications engineering plant in Berlin-Oberschoeneweide in brief cases. Of the first shipment of 300 kg of mica delivered by China, only 30 kg were usable for the production of radio tubes. The quality of a sample of mica sent by the U.S.S.R. was good. The U.S.S.R. has promised to furnish all the mica required in 1952. (3)

11. Barium acetate required for the manufacture of stabilizers was delivered by the Venditor Firm in Troisdorf near Cologne. When these deliveries were discontinued, the production of stabilizers had to be stopped in September 1951. Experiments made in an effort to produce this material in Oberschoeneweide caused an explosion. (4)

12. The TBU sector of the telecommunications engineering plant is to be transferred to the building of the Knorr Bremse Plant (an enterprise engaged in the manufacture of railroad brake equipment) at 9-17 Neue Bahnhofstrasse, Berlin O 112, in the first quarter of 1952, while the development department is to move there in the third quarter of this year. This measure is designed to make available more floor space for the manufacture of radio tubes.

25X1 [redacted] Comments.

(1) Chestrov is mentioned for the first time as the representative of the Ministry of Communications Equipment at the Berlin-Oberschoeneweide plant.

(2) For schematic diagram of the L-cathode, see Annex 3.

(3) The mica delivered by China proved to be unusable at the nationalized radio engineering plant in Erfurt. [redacted] 25X1

(4) The exact name of the firm is Troisdorfer Kunststoffe, Venditor, Plastics Department of the D.A.G., Troisdorf near Cologne. The firm has a branch plant at Bauerstrasse 83/84 in Berlin W 8.

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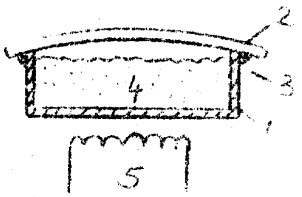
Schematic Diagram of the I Cathode

Manufactured in Berlin-Oberschoeneweide



Legend:

1 Cathode body of nickel
2 Cathode lid of tungsten or thorium
3 Sealing of cathode body to lid
4 Emitting material, barium-thorium
5 Heater